Dec. 11, 1956 F. E. REDFIELD 2,773,691

ARM GRINDING MEANS FOR GOLF STROKE

Filed May 22, 1953 2 Sheets-Sheet 1

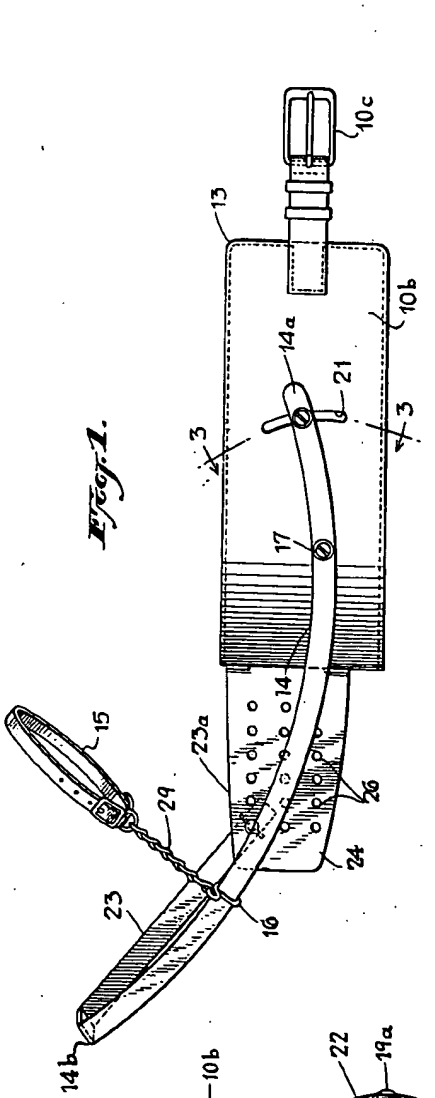


Fig. 1.

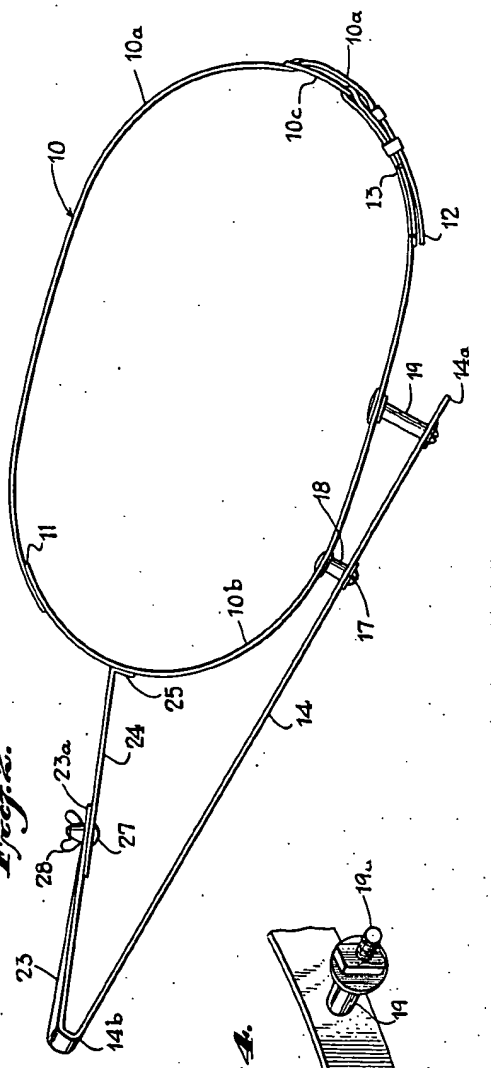


Fig. 2.

Fig. 4.

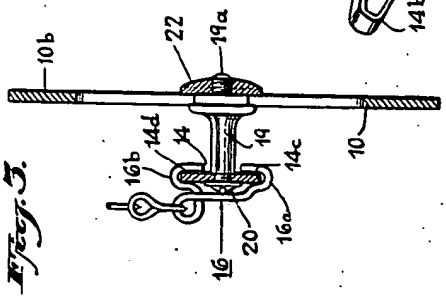


Fig. 3.

INVENTOR.
FRANK E. REDFIELD.
BY Ward, Crosby & Russell
ATTORNEYS.

Dec. 11, 1956 F. E. REDFIELD 2,773,691

ARM GRINDING MEANS FOR GOLF STROKE

Filed May 22, 1953 2 Sheets-Sheet 2

Fig. 5.

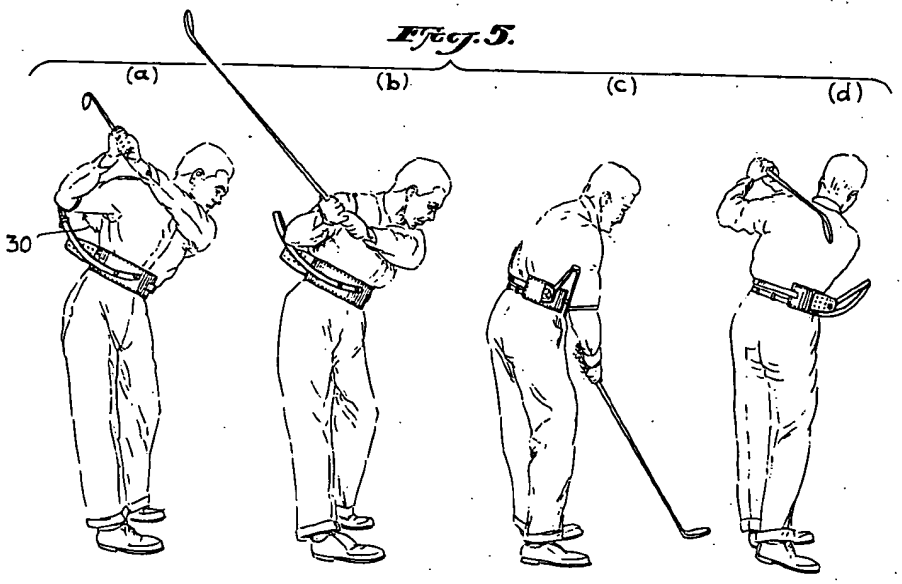


Fig. 6.

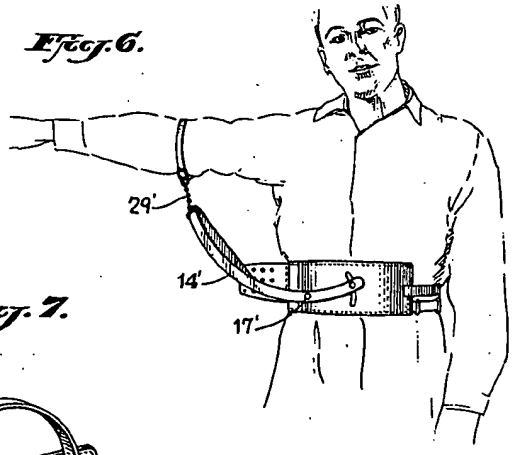
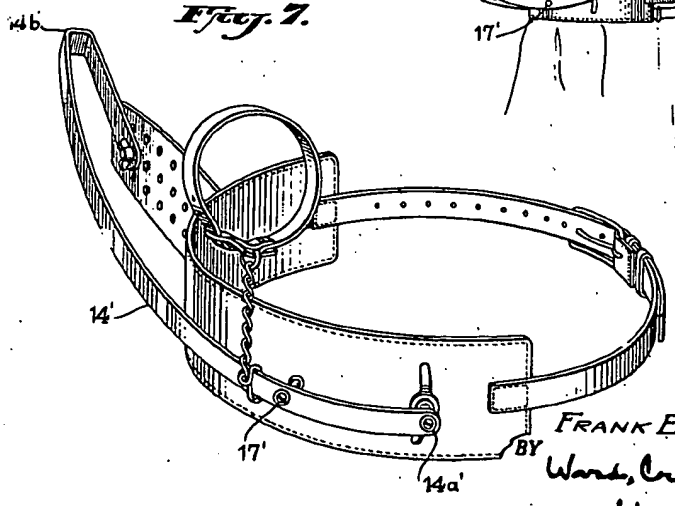


Fig. 7.



INVENTOR.
FRANK E. REDFIELD
BY Wood, Crosby & Hunt
his ATTORNEYS.

United States Patent Office 2,773,691 Patented Dec. 11, 1956

2,773,691

ARM GUIDING MEANS FOR GOLF STROKE

Frank E. Redfield, Dumont, N. J.

Application May 22, 1953, Serial No. 356,688

3 Claims. (Cl. 273—189)

This invention relates to improvements in golf stroke guiding devices for golf players, and more particularly relates to a harness for aiding in guiding one of the elbows of such a player.

One of the objects of the present invention is to provide a novel arm guiding device which is effective during a preselected critical portion of the golf stroke.

A further object of the present invention is to provide a novel arm guiding device for golf players which will prevent the right elbow of a righthanded player or the left elbow of a lefthanded player (referred to as the primary elbow) from being displaced an improper distance from the waist during the up and down swings of the stroke.

Another object is to provide an improved golf stroke guiding device which will not restrict arm movement so long as such primary elbow moves within a desired swing region. Another object is to provide novel means tending to enhance and improve the pivoting of the body as a whole during the golf stroke.

The invention, in one aspect thereof, comprises a novel device for guiding the movement of the uppermost elbow during the golf back-swing (primary elbow). The device includes a belt adapted to encircle the waist of the player and to which is secured a guide rail which extends substantially from the center of the abdomen upwardly and rearwardly relative to the waist, the guide rail providing means for guiding a trolley member to which is attached an arm band or loop member which encircles the right arm of the player just above and close to the elbow, such arm band being secured to the trolley member by a suitable flexible cord, such as a light chain. The trolley member is so shaped that it is compelled to follow the guide rail throughout its length. The guide rail at its lower or abdominal extremity may be spaced away from the belt a short distance, for example, an inch, and the upper extremity is spaced away from the belt a greater distance, for example in the neighborhood of 8–10 inches. The lower extremity of the guide rail is substantially in a reference plane formed by the longitudinal centerline of the belt whereas the upper extremity is several inches above such plane. On the up-swing of the golf stroke the primary elbow, if it moves out of a desired swing path, is restricted by action of the trolley member and the arm band. The angular movement of such elbow to the rear is not restricted during such up-swing unless such trolley member engages a limit-stop at the upper extremity of the guide rail. The extent of the up-swing may be insufficient to move the trolley member to such limit-stop. The lower or abdominal extremity of the guide rail is free of such limit-stop whereby on the down-swing, the trolley member may ride off of the guide rail to permit a free and unrestricted follow-through of the golf stroke. However, during such down stroke the interconnected arm band, trolley member and guide rail prevent the elbow from moving outwardly beyond its preselected locus within the limits of the length of the guide rail.

Various, further and more specific objects, features

and advantages of the invention will clearly appear from the detailed description given below taken in connection with the accompanying drawings which form a part of this specification and illustrate, by way of example, preferred arrangements of means for carrying out the invention. The latter consists in such novel combinations of features as may be shown and described in connection with the devices herein disclosed.

In the drawings:

Fig. 1 is a front view of one form of the golf stroke guiding device;

Fig. 2 is a plan view of the device shown in Fig 1;

Fig. 3 is a transverse sectional view taken substantially along line 3—3 of Fig. 1;

Fig. 4 is a fragmentary view of a portion of a guide rail employed in the embodiment of Fig. 1;

Figs. 5*a* through 5*d*, inclusive, illustrate successive positions of the arms of a golf player wearing the guiding device commencing at or near the end of the upswing and terminating at the end of the follow-through swing;

Fig. 6 is a front view of a modification of the device shown in Fig. 1; and

Fig. 7 is a perspective view of the modification shown in Fig. 6.

Referring first to Figs. 1–4, the novel golf stroke guiding device comprises a belt **10** which is preferably divided into a broad band and a narrow band. The narrow band is indicated at **10***a* and extends from point **11** clockwise to point **12**. The broad band, as at **10***b*, extends from point **11** counterclockwise to point **13**. A belt buckle **10***c* also is provided. The broad band **10***b* is well illustrated in side view in Fig. 1 and provides a base upon which is secured a guide rail **14** preferably of sheet metal, which, in combination with an arm band **15** and an interconnected trolley member **16**, restrains, in a preselected manner, the right arm of a righthanded golf player during a portion of the golf swing. The embodiment shown in the drawings is adapted for a righthanded player, it being understood that a reversal of the parts will adapt same for a lefthanded player. The description, however, will be concerned with the guiding of the right arm of a righthanded player.

The guide rail **14** has a lower or abdominal extremity at **14***a* and an upper extremity at **14***b*. The lower extremity is referred to as an abdominal extremity because it is normally positioned substantially in the center of the abdomen of the player, as in Fig. 6. The guide rail **14** (Figs. 1 and 2) is secured to the broad band or base **10***b* in such a way that it can be pivotally adjusted about a pivot **17**. The latter coincidentally comprises a part of the means for holding the guide rail in spaced relation from the band **10***b*, for example, by a sleeve **18**, through which passes suitable threaded fastening means of a conventional type. The pivot **17** is spaced from the lower extremity **14***a* of the guide rail and the angular position of such rail can be adjusted and secured by means well shown in Fig. 3 comprising a spacer finger **19** which, at the lefthand extremity thereof, is secured to the guide rail **14** by a suitable screw **20**, the opposite extremity of the spacer finger **19** having means for grasping opposite sides of the broad band **10***b* of the belt and for moving angularly within a slot **21**. A threaded stud **19***a* extends through such arcuate slot **21** and is engaged by an adjustment nut **22** which is of substantially greater diameter than the width of the slot.

In order adjustably to fix the position of the upper extremity **14***b* of the guide rail **14** relative to the belt, an arm **23** is provided which preferably is integral with the guide rail **14** and which is formed relative thereto in substantially a V configuration, as viewed in Fig. 2. The lower extremity **23***a* (Fig. 1) of such arm **23** can be adjustably positioned upon an adjustment plate **24** which

is rigidly secured at 25 to the broad band 10*b* of the belt.

The adjustment plate 24 extends substantially radially from the belt, as viewed in Fig. 2, and thus extends substantially radially from the waist of the player. It is provided with a plurality of perforations 26 through which a threaded bolt 27 extends and by means of a butterfly nut 28 threaded thereto secures the extremity 23*a* firmly but detachably against the adjustment plate 24.

The means for restricting and guiding the motion of the right elbow and right arm comprise: the aforementioned trolley member 16 which is well shown in Fig. 3, the arm band 15, and an interconnecting chain or cord 29 (Fig. 1).

The trolley member 16 comprises a pair of interconnected and opposing hooks 16*a* and 16*b* which embrace opposite edges 14*c* and 14*d*, respectively, of the guide rail 14 in such a manner that the trolley member can move freely along the guide rail. In the form shown in Figs. 1–4, the guide rail 14 extends slightly spaced from and parallel to a tangent to the belt 10, as viewed in Fig. 2, and, as viewed in Fig. 1, curves from the pivot 17 upwardly. That is, the guide rail 14 is arcuate in conformation when viewed in side elevation, as in Fig. 1.

The spacing means 18 and 19 (Fig. 2) hold the guide rail slightly spaced from the belt and thereby preventing the trolley member 16 from engaging the belt 10 whereby such trolley member can move freely, during the up-swing, from extremity 14*a* to 14*b* and in reverse during the down-swing.

The guide rail 14 at the upper extremity 14*b*, by virtue of its V-formation with arm 23, comprises a limit-stop to prevent movement of the trolley member 16 therebeyond. However, the guide rail is free of such limit-stop at the lower extremity 14*a*.

The form of the invention shown in Figs. 6 and 7 is substantially identical to that shown in Figs. 1–4 with the exception that the guide rail 14′ (Figs. 6 and 7), when viewed from above, curves arcuately toward the rear of the belt. Guide rail 14′ also extends arcuately toward the upper extremity 14*b*′ in a manner analogous to that shown in Fig. 1 for the guide rail 14, and is pivotally mounted at 17′.

In operation, the belt is fixed to the waist of the player, as shown in Fig. 5. The arm band 15 encircles the right arm of the player slightly above the elbow. On the up-swing of the arms the path of movement of the right elbow relative to the waist is limited in a preselected manner by means of the band 15, the trolley member 16 interconnected thereto by the chain 29 and the guide rail 14, the device permitting free angular movement rearwardly subject to the aforementioned restraint. Furthermore, said arm restraining means 14, 15, 16, 29 at the upper extremity of the back-swing, will prevent the lift of the elbow beyond a preselected point as a result of the trolley member coming against the limit-stop at extremity 14*b*. Thus excessive raising of the right arm is avoided thereby tending to cause the player to pivot his body as a whole about the axis of the spinal column to a greater extent than otherwise would be done during the up-swing. Furthermore, excessive movement of the right elbow away from the waist is restrained and, as viewed in Fig. 5*a*, a desired angle 30 is produced near or at the top of the up-swing. It is, of course, understood that such angle progressively changes from the inception of the up-swing to the termination thereof. However, the variation of this angle is preselected during the up-swing by means of the present device. Also such variation during the down-swing can be preselected by the same means.

During the down-swing the trolley member 16 rides freely along the guide rail 14 and moves off thereof at the extremity 14*a* in such a manner that the follow-through stroke is unimpeded thereby. The follow-through stroke thus is performed, as shown in Fig. 5*d*, in the usual manner but is assisted by the guiding device in that the prior back and down swings are guided in a novel manner. It should be recalled, however, that a position restraint upon the elbow of the player does not arise unless such elbow moves out of a preselected swing region or path.

The guide rail 14, when the belt is properly positioned, follows a path which is substantially a constant distance from the right shoulder socket.

There is thus provided a novel device for guiding the primary elbow of a golf player during the back and down strokes of the swing whereby such elbow is constrained to move in a preselected path and the angular variation of the right arm to the torso is governed in a predetermined manner. Furthermore, the novel device is provided with a guide rail which is angularly adjustable about a pivot intermediate the extremities of such rail in such a manner that the device may be easily adjusted to an individual player. For example, the extremity 23*a* of the arm 23 may be lowered to the lowermost and innermost perforation 26 in order to prevent an excessive uplift of the right elbow.

While the invention has been described with respect to certain preferred examples which have given satisfactory results, it will be understood by those skilled in the art, after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended, therefore, in the appended claims to cover all such changes and modifications.

What is claimed is:

1. In a harness for the use of golf players, the combination with a belt adapted to encircle the body of a player, of a relatively rigid guide rail secured to said belt in spaced relation thereto, the guide rail extending upwardly from a reference plane formed by said belt when in use, said guide rail also extending substantially tangentially to the belt when in use, one extremity of such rail being positioned in the forward central region of the belt when in use and extending therefrom toward one side thereof; said guide rail over a substantial portion of the length thereof being so positioned relative to said belt as to be substantially in such reference plane; a trolley hook connected to and movable upon said guide rail; and an arm band secured to said trolley hook and for encircling one of the arms of the golf player; said guide rail having a trolley hook limit-stop at the upper extremity thereof and being free of said limit-stop at such forward central extremity thereof, said arm band and trolley hook being interconnected by cord means of a selected relatively short length for restricting a portion of such arm of the golf player to movement in a selected zone during the down swing only, such zone being substantially coextensive in length to that of such guide rail, said trolley hook thereby being free to ride off the guide rail at the termination of the down swing thereby to allow a free follow-through.

2. In a golf stroke guiding harness to be worn by golf players, the combination comprising: a belt for encircling the body of the player when in use, said belt when so encircling the body defining a reference plane; a substantially rigid guide rail secured to such belt, said guide rail commencing substantially in the plane of said belt and extending upwardly therefrom and outwardly from the side of the belt when so in use; means for restricting the swing path of one of the elbows of the player with respect to such guide rail, including an arm band member for encircling such arm and a trolley hook connected to such band member, such trolley hook being connected to, slidable along and restricted to follow said guide rail in a selected path, the latter having a limit-stop at its upper extremity but being free of such limit-stop at its lower extremity, said trolley hook thus being free to move off said guide rail when such hook is moved to the lower extremity thereof, said arm band and trolley hook being interconnected by cord means of a selected relatively short length whereby such elbow is guided during the down swing in a selected zone substantially co-extensive with the zone of said guide rail, the free movement off said guide rail by said trolley

hook allowing free follow-through of the swing of the golf player.

3. In a harness for use by golf players, the combination comprising: a belt for forming substantially a circle when in use, a substantially rigid guide rail secured to said belt and extending outwardly therefrom in a substantially tangential direction when the belt is in use, at least a substantial portion of said guide rail also extending in an upward direction when in use whereby the lower extremity of said guide rail secured to said belt is positionable substantially beneath the chin at waist level when addressing the ball, the guide rail thence inclining upwardly and extending to the side of the player; swing path restricting means for cooperation with said guide rail comprising a loop member through which one of the arms of the player can extend, and a trolley hook slidably engaging said guide rail, said loop member and trolley hook being interconnected by relatively short interconnecting means thereby to guide such elbow during the down swing in a selected zone substantially co-extensive with the zone of said guide rail,

said guide rail having a limit-stop at the upper extremity thereof to prevent said trolley hook from moving off of said guide rail at said extremity, such guide rail being free of such limit-stop at the lower extremity thereof, such hook thus being movable off of such guide rail during the ensuing golf stroke thereby to allow free follow-through after the termination of a down swing, the zone of guidance for such loop being substantially co-extensive with such guide rail.

References Cited in the file of this patent

UNITED STATES PATENTS

1,591,524	Fuller	July 6, 1926
1,699,219	Bemish et al.	Jan. 15, 1929
2,093,153	McCarthy	Sept. 14, 1937

FOREIGN PATENTS

522,814	Great Britain	A. D. 1940